

PTO/SB/08B (10-01)

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## **INFORMATION DISCLOSURE STATEMENT BY APPLICANT**

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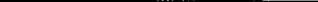
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**Complete if Known**

Application Number	10/673,976
Filing Date	09/29/2003
First Named Inventor	Mark E. Van Dyke
Group Art Unit	Not Yet Assigned
Examiner Name	Not Yet Assigned
Attorney Docket Number	SWRL-2921-04

**OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS**

Examiner Signature		Date Considered	7/18/05
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**\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.**

<sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> Applicant is to place a check mark here if English language Translation is attached.

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## INFORMATION DISCLOSURE STATEMENT BY APPLICANT

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Sheet 1 of 9

**Complete If Known**

Application Number	10/673,976
Filing Date	09/29/2003
First Named Inventor	MARK VAN DYKE
Art Unit	Not Yet Assigned
Examiner Name	Not Yet Assigned

Attorney Docket Number SWRI-2921-04

**U.S. PATENT DOCUMENTS**

Examiner Initials	Cite No. <sup>1</sup>	Document Number Number - Kind Code <sup>3</sup> (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		US- 922,692	05-25-1909	B.B. GOLDSMITH	
		US- 926,999	07-06-1909	GARE NEUBERG	
		US- 960,914	06-07-1910	ARTHUR HEINEMANN	
		US- 3,642,498	02-15-1972	ANKER	
		US- 4,423,032	12-27-1983	ABE <i>et al.</i>	
		US- 4,474,694	10-02-1984	COCO <i>et al.</i>	
		US- 4,570,629	02-18-1986	WIDRA	
		US- 4,751,074	06-14-1988	MATSUNAGA <i>et al.</i>	
		US- 4,895,722	01-23-1990	ABE <i>et al.</i>	
		US- 5,047,249	09-10-1991	ROTHMAN <i>et al.</i>	
		US- 5,505,952	04-09-1996	JIANG <i>et al.</i>	
		US- 5,679,819	10-21-1997	JONES <i>et al.</i>	
		US- 5,712,252	01-27-1998	SMITH	
		US- 5,955,549	09-21-1999	CHANG <i>et al.</i>	
		US- 6,159,495	12-12-2000	TIMMONS <i>et al.</i>	
		US- 6,159,496	12-12-2000	BLANCHARD	
		US-			

**FOREIGN PATENT DOCUMENTS**

Examiner Initials	Cite No. <sup>1</sup>	Foreign Patent Document Country Code <sup>3</sup> - Number <sup>4</sup> - Kind Code <sup>3</sup> (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T <sup>6</sup>
		EP 0 298 684 A3	01-11-1989	Unilever PLC		
		EP 0454 600 A1	10-30-1991	ICP FRANCE		
		JP 4-189833	07-08-1992	TAKEDA Chemical		
		WO 98/ 08550	03-05-1998	FUSION MEDICAL		
		WO 93/22397	11-11-1993	MERCK		
		EP 0 468 797 A2	01-29-1992	NIIGATA Hi-Spinner		

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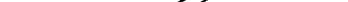
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Substitute for form 1449A/PTO				Complete if Known	
<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b> <i>(use as many sheets as necessary)</i>				Application Number	10/673,976
				Filing Date	09/29/2003
				First Named Inventor	MARK VAN DYKE
				Art Unit	Not Yet Assigned
				Examiner Name	Not Yet Assigned
Sheet	2	of	9	Attorney Docket Number	SWRI-2921-04

## U.S. PATENT DOCUMENTS

## FOREIGN PATENT DOCUMENTS

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**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**

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Sheet 3 of 9

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First Named Inventor	MARK VAN DYKE
Group Art Unit	Not Yet Assigned
Examiner Name	Not Yet Assigned
Attorney Docket Number	SWRI-2921-04

**OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS**

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<i>MW</i>		J.M. GILLESPIE, et al., "Amino Acid composition of a Sulphur-Rich Protein from Wool," BIOCHIM. BIOPHY. ACTA, (1960) pp. 538-539; Vol. 39.	
		KEITH H. GOUGH, et al., "Amino Acid Sequences of alpha -Helical Segments from S-Carboxymethylkerateine-A: Complete Sequence of a Type-I Segment," BIOCHEM. J. (1978), pp. 373-385; Vol. 173	
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		DAVID McC. HOGG, et al., "Amino Acid Sequences of alpha-Helical Segments from S-Carboxymethylkerateine-A: Tryptic and Chymotryptic Peptides from a Type-II Segment," BIOCHEM. J. (1978), pp. 353-363; Vol. 173.	
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		J.M. GILLESPIE, et al., "Preparation of an Electrophoretically Homogeneous Keratin Derivative from Wool," Short Communications, Preliminary Notes, (1953), pp. 481-482, Vol. 12.	
		MAURICE J. FRENKEL, et al., "The Isolation and Properties of a Tyrosine-Rich Protein from Wool: Component 0.62," EUR. J. BIOCHEM, (1973) pp. 112-119, Vol. 34.	
		R.J. BLAGROVE, et al., "The Electrophoresis of the High-Tyrosine Proteins of Keratins on Cellulose Acetate Strips," Comp. Biochem. Physiol., (1975) pp. 571-572, Vol 50B.	
		ROBERT C. MARSHALL, et al., "Successful Isoelectric Focusing of Wool Low-Sulphur Proteins," Journal of Chromatography, (1979) pp. 351-356, Vol. 172.	
<i>MW</i>		ROBERT C. MARSHALL, "Characterization of the Proteins of Human Hair and Nail by Electrophoresis," The Journal of Investigation Dermatology, (1983) pp. 519-524, Vol. 80.	

Examiner  
Signature*Lat. M.*Date  
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Sheet 4 of 9

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Application Number	10/673,976
Filing Date	09/29/2003
First Named Inventor	MARK VAN DYKE
Group Art Unit	Not Yet Assigned
Examiner Name	Not Yet Assigned
Attorney Docket Number	SWRI-2921-04

## OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS

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<i>MW</i>		W. G. CREWTHER, et al. "Helix-Rich Fraction from the Low-Sulphur Proteins of Wool," Nature, (July 17, 1965) P. 295, No. 4994.	
		H. LINDLEY, et al., "Occurrence of the Cys-Cys Sequence in Keratins," J. Mol. Biol., (1967) pp. 63-67, Vol. 30.	
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		M. E. CAMPBELL, et al., "Compositional Studies of High-and Low-Crimp Wools," Aust. J. Biol. Sci., (1972) pp. 977-87, Vol. 25.	
		P.J REIS, et al. "A Relationship between Sulphur Content of Wool and Wool Production by Merino Sheep," Aust. J. Biol. Sci., (1967) pp. 153-63, Vol. 20.	
		ROBERT C. MARSHALL, et al., "The Keratin Proteins of Wool, Horn and Hoof from Sheep," Aust. J. Biol. Sci., (1977) pp. 389-400, Vol 30.	
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		DAVID R. GODDARD, et al., "A Study on Keratin," J. Bio. Chem., (1934) pp. 605-14, Vol. 106.	
		L.M. DOWLING, et al., "Isolation of Components from the Low-Sulphur Proteins of Wool by Fractional Precipitation Preparative Biochemistry," (1974) pp. 203-226, Vol. 4 (3).	
		W.G. CREWTHER, et al., "Reduction of S-Carboxymethylcysteine and Methionine with Sodium in Liquid Ammonia," Biochim. Biophys. Acta, (1969) pp. 609-611, Vol. 164.	
<i>MW</i>		W.T. AGAR, et al., "The Isolation from Wool of a Readily Extractable Protein of Low Sulphur Content," Biochim. Biophys Acta, (1958) pp. 225-226, Vol. 27.	

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(use as many sheets as necessary)				Filing Date	09/29/2003
Sheet	5	of	9	First Named Inventor	MARK VAN DYKE
				Group Art Unit	Not Yet Assigned
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				Attorney Docket Number	SWRI-2921-04

<b>OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS</b>			
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<i>MW</i>		H. LINDLEY, et al., "The Reactivity of the Disulphide Bonds of Wool," Biochem J. (1974) pp. 515-523, Vol. 139.	
		M. SCHORNING, et al., "Synthesis of Nerve Growth Factor mRNA in Cultures of Developing Mouse Whisker Pad, A Peripheral Target Tissue of Sensory Trigeminal Neurons," The Journal of Cell Biology. (March 1993) nn. 1471-1479. Volume 120. Number 6.	
		S. MITSUI, et al., "Genes for a Range of Growth Factors and Cyclin-Dependent Kinase Inhibitors are Expressed by Isolated Human Hair Follicles," British Journal of Dermatology (1997) pp. 693-98. Vol. 137.	
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		R.D.B. FRASER, et al., "Structure of alpha -Keratin," Nature, (February 28, 1959) pp. 592-94, Vol. 183.	
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		B.K. FILSHIE, et al., "An Electron Microscope Study of the fine Structure of Feather Keratin," The Journal of Cell Biology (1962) pp. 1-12, Volume 13.	
		W.G. CREWTHOR, et al., "Low-Sulfur Proteins from alpha -Keratins. Interrelationships between their Amino Acid Compositions, alpha-Helix Contents, and the Supercontraction of the Parent Keratin," BIOPOLYMERS (1966) pp. 905-916, Vol. 4.	
		G.M. BHATNAGAR, et al., "The Conformation of the High-Sulphur Proteins of Wool 1. The Preparation and Properties of a Water-Sulphur Metakeratin," Int. J. Protein Research I. (1969), nn. 199-212.	
		W.G. CREWTHOR, et al., "The Preparation and Properties of a Helix-Rich Fraction Obtained by Partial Proteolysis of Low Sulphur S-Carboxymethylkeratine from Wool," (1967) The Journal of Biological Chemistry (Issue of October 10), pp. 4310-4319, Vol. 242, No 19.	
<i>MW</i>		D.A.D. PARRY, et al., "Structure of alpha -Keratin: Structural Implication of the Amino Acid Sequences of the Type I and II Chain Segments," J. Mol. Biol. (1977) pp. 449-454, Vol. 113.	

Examiner Signature	<i>MW</i>	Date Considered	7/18/05
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UVW		E. SUZUKI, et al., "X-Ray Diffraction and Infrared Studies of an alpha -Helical Fragment from alpha -Keratin," J. Moll. Biol. (1973) pp. 275-278, Vol. 73.
		G.M. BHATNAGAR, et al., "The Conformation of the High-Sulphur Proteins of Wool: II. Difference Spectra of Keratine-B," Int. J. Research1, (1969) pp. 213-219.
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		A.M. DOWNES, et al., "A Study of the Proteins of the Wool Follicle," Aust. J. Biol. Sci., (1966) pp. 319-33, Vol. 19.
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/		G.E. ROGERS, et al., "Some Observations on the Proteins of the Inner Root Sheath Cells of Hair Follicles," Biochimica et Biophysica Acta, (1958) pp. 33-43, Vol. 29.
		LESLIE N. JONES, et al., "Studies of Developing Human Hair Shaft Cells in Vitro," The Journal of Investigative Dermatology., (January 1988) pp. 58-64, Vol. 90.
		TREVOR JARMAN, et al., "Prospects for Novel Biomaterials Development," Online Publications, Pinner, Uk, Presented at Biotech '85 (Europe) (1985) pp. 505-512.
		AKIRA TACHIBANA, et al., "Fabrication of Wool Keratins Sponge Scaffolds for Long-Term Cells Cultivation," Journal of Biotechnology, (2002) pp. 165-170, Vol. 93.
UVW		J.M. Gillispie, et al., "Periodicity in High-sulphur Proteins from Wool," Nature, (September 18, 1965) pp. 530-531, Vol. 246.

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Sheet 7 of 9

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<i>MW</i>		KIYOSHI YAMAUCHI, "The Development of Keratin: Characteristics of Polymer Films," [Research Report]; pp. 1-12.	
		"Scattering to Structural Foams, Skin, Synthetic" Encyclopedia of Polymer and Science and Engineering, (1989) pp. 335-345, Vol. 15.	
		J.M GILLESPIE, et al., "Proteins Rich in Glycine and Tyrosine from Keratins," Comp. Biochem. Physiol., (1972) pp. 723-734, Vol. 41B.	
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		J.M. GILLESPIE, et al., "Relation Between the Tyrosine Content of Various Wools and their Content of a Class of Proteins Rich In Tyrosine and Glycine," Aust. J. Biol. Sci., (1971) pp. 1189-97, Vol 24.	
		J.M. GILLESPIE, et al., "The Macroheterogeneity of Type I Tyrosine-rich Proteins of Merino Wool," Aust. J. Biol. Sci., (1974) pp. 617-27, Vol. 27.	
		E.G. BENDIT, et al., "The Probable Role and Location of High-Glycine-Tyrosine Proteins in the Structure of Keratins," BIOPOLYMERS, (1978) pp. 2743-2745, Vol. 17.	
		ROBERT C. MARSHALL, et al. "High-sulphur Proteins from alpha -Keratins: 11.* Isolation and Partial Characterization of Purified Components from Mouse Hair," Aust. J. Biol. Sci. (1976) pp. 11-20, Vol. 29.	
		ROBERT C. MARSHALL, et al. "High-Sulphur Proteins from alpha -Keratins: 1. Heterogeneity of the Proteins from Mouse Hair," Aust. J. Biol. Sci. (1976) pp. 1-10, Vol. 29.	
		R. L. DARSKUS, et al. "The Possibility of Common Amino Acid Sequences in High-Sulphur Protein Fractions From Wool," Aust. J. Biol. Sci. (1969) pp. 1197-1204, Vol. 22.	
<i>MW</i>		ROBERT C. MARSHALL, et al. "Heterogeneity and Incomplete Disulfide Reduction in the High-Sulfur Proteins of Wool," Aust. J. Biol. Sci. (1978) pp. 219-229, Vol. 31.	

Examiner Signature	<i>Pat MW</i>	Date Considered	7/18/05
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**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**

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Sheet 8 of 9

**Complete if Known**

Application Number	10/673,976
Filing Date	09/29/2003
First Named Inventor	MARK VAN DYKE
Group Art Unit	Not Yet Assigned
Examiner Name	Not Yet Assigned
Attorney Docket Number	SWRI-2921-04

**OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS**

Examiner Initials	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published	T <sup>2</sup>
<i>MW</i>		H. LINDLEY, et al., "The Preparation and Properties of a Group of Proteins from the High-Sulphur Fraction of Wool," Biochem. J. (1972) pp. 859-867, Vol. 128.	
		J.M. GILLESPIE, et al., "Evidence of Homology in a High-Sulphur Protein Fraction (SCMK-B2) of Wool and Hair alpha-Keratins," Biochem. J. (1968) pp. 193-198, Vol. 110.	
		J.M. GILLESPIE, et al., "A Comparative Study of High-Sulphur Proteins from alpha-Keratins," Comp. Biochem. Physiol. (1965) pp. 175-185, Vol. 15.	
		J.M. GILLESPIE, et al., "High-Sulphur Proteins as a Major Cause of Variation in Sulphur Content Between alpha-Keratins," Nature (September 18, 1965) pp. 1293-94, Vol. 207.	
		R.D.B. FRASER, et al., "Molecular Organization in Alpha-Keratin," Nature, (March 17, 1962) pp. 1052-1055, Vol. 193.	
		DR. P. ALEXANDER, et al., "Structure of Wool Fibres," Nature, (September 2, 1950) pp. 396-398.	
		NODE, et al., "Hard Acid and Soft Nucleophile System. 2. Demethylation of Methyl Ethers of Alcohol and Phenol with an Aluminum Halide-Thiol System," J. Org. Chem (1980), pp. 4275-4277. Vol. 45.	
		ITO, et al., "Biocompatibility of Denatured Wool Keratin," Konbushi Ronbunshu [Collected Essays on Polymers], (April 1982) pp. 249-256, Vol. 39, No. 4.	
		TATSUYA and ISHII, "Keratin Protein High Pressure Molded Article,"; Japanese Patent Application, (Dec. 03, 1993), total of six pages, Public Patent Announcement 1993-320358.	
		SAEKI, YOKOGAWA, and UEHARA, "Production Method For Water-soluble Keratin Protein," Japanese Patent Application, (February 21, 1990), total of five pages, Public Patent Announcement 1990-51533.	
<i>MW</i>		MIYAMOTO and TSUSHIMA, "A Method for Preparing a Keratin Substance with a Low Molecular Weight," Japanese Patent Application, (July 8, 1982), total of five pages, Public Patent Disclosure Bulletin S57-109797.	

Examiner Signature

Date Considered

7/18/05

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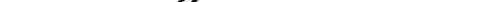
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Sheet 9 of 9

**Complete if Known**

Application Number	10/673,976
Filing Date	09/29/2003
First Named Inventor	MARK VAN DYKE
Group Art Unit	Not Yet Assigned
Examiner Name	Not Yet Assigned
Attorney Docket Number	SWRI-2921-04

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1 of 2

## Complete if Known

Application Number	10/673,976
Filing Date	September 29, 2003
First Named Inventor	Van Dyke
Art Unit	Not Yet Assigned
Examiner Name	Not Yet Assigned
Attorney Docket Number	SwRI-2921-04

## U. S. PATENT DOCUMENTS

Examiner Initials*	Cite No. <sup>1</sup>	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code <sup>2</sup> (if known)			
		US- 5358935	10-25-1994	Lankford et al.,	
LM		US- 5356433	10-18-1994	Rowland et al.	
		US- 3677693	07-18-1972	Fillingham	
		US- 6352699	03-05-2002	Mondet, et al.	
		US- 5300285	04-05-1994	Halloran, et al.	
		US- 5412076	05-02-1995	Gagnieu	
		US- 3250682	05-10-1966	Wilmsmann, et al	
		US- 5258501	11-02-1993	Barbaric, et al.	
		US- 4504644	03-12-1985	Lang, et al.	
		US- 2434688	01-20-1948	Evans	
		US- 5276138	01-04-1994	Yamada, et al.	
		US- 5520925	05-28-1996	Maser	
		US- 5948432	09-07-1999	Smith, et al.	
		US- 6124265	09-26-2000	Smith, et al.	
MM		US- 6165496	12-26-2000	Smith, et al.	
		US-			

## FOREIGN PATENT DOCUMENTS

Examiner Initials*	Cite No. <sup>1</sup>	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages Or Relevant Figures Appear	T <sup>3</sup>
		Country Code <sup>4</sup> Number <sup>5</sup> Kind Code <sup>6</sup> (if known)				
MM		WO 03008006	01-30-2003	PHANEUF, M		
		EP 0540357	05-05-1993	Jones, et al.		
		EP 0097907	01-11-1984	Haller		
MM		WO 9931167	06-24-1999	Vanderhoff, et al.		

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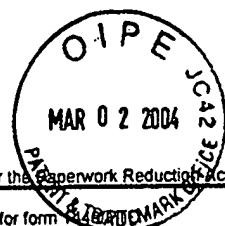
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## INFORMATION DISCLOSURE STATEMENT BY APPLICANT

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Sheet

2

of

2

Application Number	10/673,976
Filing Date	September 29, 2003
First Named Inventor	Van Dyke
Art Unit	Not Yet Assigned
Examiner Name	Not Yet Assigned
Attorney Docket Number	SwRI-2921-04

### NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
<i>MD</i>		VAN DYKE MARK ET AL., Development of keratin coatings for osteoinduction on titanium, Abstracts of Papers American Chemical Society, vol. 224, no.1-2, 2002, August 18-22, 2002.	
<i>MD</i>		TANAKA, YOSHIO ET AL., Reaction of Wool Keratin with Epoxides, Proceedings International Wolltextil-Forschungskonf, Vol. 3, 1976, pp. 192-201	
<i>MD</i>		FRAENKEL-CONRAT, H., The Action of 1, 2-Epoxides on Proteins, Journal of Biological Chemistry, vol. 154, no. 1, June 1, 1944	

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7/18/05

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1 of 1

**Complete if Known**

Application Number	10/673,976
Filing Date	09/29/2003
First Named Inventor	VAN DYKE
Group Art Unit	1646
Examiner Name	Not Yet Assigned
Attorney Docket Number	SwRI-2921-04

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